

SCOPE OF WORK

Installation of Artificial Turf – Phase 3

EMBASSY DJIBOUTI

1 PROJECT DESCRIPTION

- 1.1 This project work is to install Artificial Turf at the US Embassy Djibouti per the drawings provided by the U.S. Embassy for Phase 3 of this work. Work will need to be accomplished for this scope not normally needed for artificial turf installation because the area may be used in the future as a helicopter landing zone. The successful Contractor will have prior experience installing artificial turf fields.
- 1.2 The project work includes:
 - 1.2.1 Relocating ten (10) palm trees to a grove area next to the Embassy Chancery Building.
 - 1.2.2 Removal and disposal of existing round quartz aggregate (river rock) in the area of this scope of work.
 - 1.2.3 Adjusting the height of storm drains and manhole access to provide a smooth and level grade for the turf installation.
 - 1.2.4 Backfilling with compactable aggregate per the manufacturer's recommendation.
 - 1.2.5 Leveling and compacting the area on which the Artificial Turf is to be installed.
 - 1.2.6 Installing composite grade beams to anchor the Artificial Turf per FAA requirements.
 - 1.2.7 Installing the Artificial Turf, including gluing seems and installing anchors per this scope of work and the manufacturer's recommendations.
 - 1.2.8 Installing beach sand ballast and providing final grooming per manufacturer's recommendations.
- 1.3 Area of Project:
 - 1.3.1 The area of the project for Phase 3 installation is the arc east of the Marine Security Guard Quarters (MSGQ) and will be noted on the drawings provided.
 - 1.3.2 The pricing on this project is per square meter and the approximate size of the project will be 6,000 square meters.

2 SCOPE

2.1 PRIOR TO IMPLEMENTATION

- 2.1.1 Submit to the CO and/or COR within 30 days of Notice to Proceed, document submittal package that includes:
 - 2.1.1.1 Bill of material to be ordered by contractor with estimated delivery times and dates,
 - 2.1.1.2 Complete finalized Execution Plan including Critical Path Method (CPM) schedule

2.2 GOVERNMENT PROVIDED MATERIAL

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2.2.1 Artificial Turf

2.2.2 Artificial Turf Glue (Contractor to inventory because present stock may not be sufficient to complete the project. Contractor is responsible for purchase, shipment, and customs clearance for sufficient glue to complete the project)

2.3 **CONTRACTOR PROVIDED MATERIAL**

2.3.1 Composite grade beams to anchor turf per attached specification

2.3.2 Composite nailers if required around manholes or storm drain casements.

2.3.3 Turf tape needed to complete project.

2.3.4 Turf tape glue needed to complete the project

2.3.5 All nails/spikes to complete project.

2.3.6 Infill/Ballast sand; must be clean white beach sand, or green colored artificial turf sand ballast. Crushed rubber will not be acceptable.

2.3.7 Base material including both course crushed granite or limestone and decomposed (fine crushed) granite or limestone. Material must be compactable (not sand).

2.4 **IMPLEMENTATION**

2.4.1 Surface Preparation

2.4.1.1 Remove the existing quartz aggregate and dispose.

2.4.1.2 Excavate to a minimum of ten centimeters (10cm) below finished grade with slopes to drains incorporated into the slope of the grade.

2.4.1.3 Provide extension collars to bring storm drain grills and manhole access covers to desired height for an even field surface. Collars must be permanently fixed in place and not movable.

2.4.2 Palm Tree Relocation

2.4.2.1 Coordinate palm tree locations with COR.

2.4.2.2 Maintain at least 5 meters between palm tree trunks (center to center) when replanted.

2.4.2.3 The root ball of the palm when removed must be a MINIMUM of twice the diameter of the trunk.

2.4.2.3.1 Root ball must be covered immediately in burlap and watered to prevent root damage.

2.4.2.3.2 The palm must be replanted with the burlap root ball covering in place.

2.4.2.4 New planting holes must be a MINIMUM of twice the diameter of the root ball.

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- 2.4.2.4.1 Clean top soil mixed with mulch will be placed in the hole to a depth of at least 30cm prior to installing the palm.
 - 2.4.2.4.2 Clean top soil will be used to fill around the root ball after planting.
 - 2.4.2.5 The palm trees will be supported by rope until the root balls are set and the palms are stable.
- 2.4.3 Garden Border Installation
 - 2.4.3.1 Install concrete borders 15cm wide x 25cm high (10cm above grade with a depth of 15cm below grade) shields around MSGQ flower bed along the access sidewalk east of the MSGQ. Install steel reinforcement in the concrete border.
 - 2.4.3.2 Install a 1 meter x 15cm knee wall around the garden/flower bed east of the MSGQ patio area. This will be a steel reinforced concrete poured wall, finished in the same stucco pattern and paint color of the MSGQ. Corners at the top of the wall will be rounded and smooth. The top of the wall will be smooth finished to allow seating without abrasions or snags.
- 2.4.4 Turf Grade Installation
 - 2.4.4.1 Composite Grade Beams
 - 2.4.4.1.1 See attached composite beam specification for base bid. 15 cm (6”) grade beams will be used.
 - 2.4.4.1.2 Composite grade beams will be laid north and south to match the long lengths of the turf installation.
 - 2.4.4.1.3 The top surface of the grade beams will be level with the finished grade so that turf is even across the entire surface of the field.
 - 2.4.4.1.4 Each edge of the turf will be affixed to the grade beams to ensure that high winds due to rotor wash will not lift the turf.
 - 2.4.4.1.5 Contractor will verify roll width of the turf for EACH ROLL to ensure that grade beams are spaced correctly to match the sides of the roll.
 - 2.4.4.2 Finished grade will be the same level as sidewalks, manhole covers, and drain covers.
 - 2.4.4.3 Install 10 cm of course aggregate and compact. Aggregate may be crushed limestone or granite.
 - 2.4.4.4 Machine compact using vibrator or rolling compactor.
 - 2.4.4.5 Install 5 cm of decomposed granite as the final layer and compact.
 - 2.4.4.6 Final layer must be smooth with no dips or rises of more than a 0.5cm.

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2.4.5 Installation of Artificial Turf

- 2.4.5.1 Inventory all Artificial Turf roll sizes and lengths provided by the USG to be completely familiar with the rolls available.
- 2.4.5.2 Roll out the Artificial Turf according to the most efficient use and least waste.
- 2.4.5.3 Cut the Artificial Turf to fit to sidewalks, manhole cover extensions, and storm drain grill casements.
- 2.4.5.4 Insure that the Artificial Turf is tight and even with no bubbles.
- 2.4.5.5 Use a factory seam tape and glue to attach the seams according to manufacturer's requirements.
- 2.4.5.6 Install nail/spikes on a pattern of each square foot and along the exterior seams next to border shields, sidewalks, and other protrusions.
 - 2.4.5.6.1 If there is a concrete abutment less than 20 cm below finished grade which prevents use of a turf spike, provide a nailer of composite material at the edge of the Artificial Turf area affected and attach the Artificial Turf to the nailer in that area.
 - 2.4.5.6.2 The nailer will be secured to the concrete below to prevent movement.
 - 2.4.5.6.3 Spikes are to be 20 cm long, galvanized, with a minimum body and head diameter of a 100d nail.
 - 2.4.5.6.4 The head of all nails and spikes must be driven down to the mesh backing so that there are no protrusions.

2.4.6 Installation of Ballast

- 2.4.6.1 When installation of the Artificial Turf is complete, add clean white sand or green turf ballast sand as ballast to the Turf to provide 1 cm to 1.5 cm in all areas.
- 2.4.6.2 Crushed rubber material for ballast is NOT/NOT acceptable.
- 2.4.6.3 Fluff the Turf and settle the sand ballast using motor operated brooms.

2.5 AFTER IMPLEMENTATION

- 2.5.1 Provide 1 year installation warranty

3 POINTS OF CONTACT

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- 3.1 CONTRACTING OFFICER: The Contracting Officer (CO) shall be the Embassy General Services Officer
- 3.2 CONTRACTING OFFICER REPRESENTATIVE (COR) shall be the Embassy Facility Manager
- 4 PROPOSAL SUBMITTAL: proposal shall be submitted to GSO, U.S. Embassy Djibouti.**

END SOW